B4

4. (Once Amended) The method of claim 1 wherein the FGF family member is bFGF.

5. The method of claim 4 wherein the treatment step lasts at least one day.

B5

6. (Once Amended) The method of claim 3 further comprising a subsequent in vitro differentiation step performed after exposing the group of cells to the at least one added factor, the in vitro differentiation step comprising culturing the group of cells without the added factor whereby the neurons are produced after the in vitro differentiation step.

7. The method of claim 6 wherein the in vitro differentiation step lasts at least one day.

8. The method of claim 6 wherein the treatment step lasts at least three days and the in vitro differentiation step lasts at least three days.

9. The method of claim 6 wherein the treatment step lasts three to nine days and the in vitro differentiation step lasts four to nine days.

10. The method of claim 1 wherein the added factor is an agent that interacts with cell receptors that are recognized by a member of the FGF family.

11. The method of claim 1 wherein the growth factor is an agent that interacts with cell receptors that are recognized by bFGF.

12. (Once Amended) A method of producing a second cell type from astrocytes, the method comprising an initial culturing step of culturing the astrocytes and a subsequent treatment step of contacting the astrocytes with an added factor, the added factor being at least one growth factor chosen from the FGF family, and wherein the second cell type is a neuron or oligodendrocyte.

24. (Once Amended) The method of claim 12 wherein the at least one added growth factor is FGF-2.

32. The method of claim 12 wherein the added factor is an agent that interacts with cell receptors recognized by a member of the FGF family.

38. A method of treating astrocytes to produce a population of cells that includes neurons and/or oligodendrocytes, the method comprising a step of culturing the astrocytes and contacting the astrocytes in vitro with bFGF.

39. (Once Amended) A method of manipulating an in vitro culture of glial cells to produce a second cell type, the method comprising:

a culturing step of culturing a group of glial cells;

a dissociation step of dissociating the group of cells; and

a subsequent treatment step of contacting the group of cells with an added factor, the added factor including at least one growth factor chosen from the FGF family.

40. The method of claim 39 wherein the glial cells in the culturing step are astrocytes.

41. The method of claim 40 wherein the dissociation step includes exposing the group of cells to trypsin.

42. The method of claim 39 wherein the second cell type is a multipotent cell type.

43. The method of claim 39 further comprising the step of pretreating the cultured cells with the added factor prior to the dissociation step.

b9 46. (Once Amended) The method of claim 43 wherein the member of the FGF family is bFGF.

47. The method of claim 46 wherein the pretreatment step lasts one to seven days, the treatment step lasts three to fourteen days.

48. (Once Amended) The method of claim 47 further comprising an in vitro differentiation step, the in vitro differentiation step being performed after contacting the group of cells with the added factor and comprising culturing the group of cells without the added factor.

B10

49. (Once Amended) A method of screening growth factors for transdifferentiation, the method comprising the steps of:

(a) growing cultured cells in vitro, including a first cell type but not a second cell type;

(b) dissociating the cultured cells;

(c) replating the cells into a plurality of test well means;

(d) adding a test factor to the test well means;

(e) growing the cells in the test well means in the presence of the test factor;

(f) subsequently growing the cells in the test well means in the absence of the test factor;

(g) examining the cells to determine if cells of the second type are present; and

(h) Running a control experiment in other test well means using a member of the fibroblast growth factor family, wherein the first cell type is a glial cell and the second cell type is a neuron or oligodendrocytes.

50. The method of claim 49 wherein the first cell type is astrocytes and the second cell type is neurons and the test growth factor is added to the wells in a concentration ranging from 0.05 to 1000 ng per ml.

51. The method of claim 49 wherein the first cell type is astrocytes and the second cell type is oligodendrocytes and the test growth factor is added to the wells in a concentration ranging from 0.05 to 1000 ng per ml.

52. The method of claim 50 wherein step (e) has a duration ranging from seven to twenty-eight days; and step (f) has a duration ranging from three to twenty-one days.

53. The method of claim 52 wherein step (h) is performed with bFGF.

54. The method of claim 50 wherein step (e) has a duration ranging from fourteen to twenty-one days; and step (f) has a duration ranging from seven to fourteen days.

55. The method of claim 54 wherein step (h) is performed with bFGF.

56. The method of claim 55 wherein the bFGF of step (h) is present in a concentration of at least 50 picomolar.

57. (Once Amended) An in vitro method for producing neurons from astrocytes, the method comprising a culturing means for culturing astrocytes in vitro, and a subsequent treatment step of exposing the group of cells to at least one growth factor means, the growth factor means causing the production of neurons from the astrocytes and being chosen from the FGF family.

58. The method of claim 57 wherein the growth factor means is a means of accomplishing the biological effects that are accomplished by bFGF.

59. The method of claim 58 wherein the treatment step lasts at least three days and the in vitro differentiation step lasts at least three days.

Please add new claim 64 as follows:

64. A method of producing a multipotent cell type from an astrocyte, the method comprising an initial culturing step of culturing the astrocytes and a subsequent treatment step of contacting the astrocytes with FGF.